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WASHINGTON STATE BOARD OF HEALTH  
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# **Proposed Final Report**

## **State Board of Health Priority: Environmental Justice**

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## Executive Summary

Governor Locke and the Legislature have taken several steps to promote economic vitality while sustaining environmental protection and community infrastructure in the name of promoting “One Washington.” This concept of “One Washington” refers to a State where all residents can experience the benefits of unprecedented prosperity, growth, clean air, clean water, and equal participation in government activities. In this report, the Board’s Subcommittee on Environmental Justice suggests a strategy that, in combination with efforts already underway, can further promote Governor Locke’s goal of moving the State of Washington into a sustainable and prosperous future.

Environmental justice describes a movement that focuses on the disparate impact of environmental pollution in low-income and minority communities. The Board’s Subcommittee on Environmental Justice was particularly interested in the connection between the disproportionate burden of environmental pollution and adverse health outcomes. It looked closely at the specific claim that disproportionate exposures produce adverse health outcomes that are also borne disproportionately by low income and minority communities. In direct response to concerns raised by individuals and organizations involved in the environmental justice movement, the State Board of Health identified environmental justice as a top priority for 2000-2001.

During the past year, the Subcommittee has focused its attention on listening to individuals’ concerns that relate to environmental exposure, disease, and the social and economic inequities that allow pollution and disease to be disproportionately located in low-income and minority communities. It has worked with committed representatives from a number of state and local government agencies to move beyond the institutional habit of working in isolation to more effective collaborative working relations.

It has been well documented in the State of Washington that low income and minority populations have poorer health status than the overall population and have higher rates of a variety of diseases, including cancer and asthma. Many complex factors interact to produce health disparities among populations. Access to medical care, nutrition, behavioral choices, genetic variability, and environmental and occupational exposures, all contribute and are related. This report focuses on the relative contribution that environmental factors make to these health disparities.

Establishing a certain link between a particular environmental exposure and disease is difficult to do because of the many confounding variables that interact to produce a particular disease outcome. This task becomes even more challenging in low-income and minority communities, where the variables contributing to higher morbidity and mortality rates are numerous (i.e.,

poverty, nutrition, access to health care, genetic susceptibility). With that said however, there are methods for evaluating the relative contribution of environmental factors to health status and estimating an individual's risk of disease when exposed to particular hazardous substances. This report speaks to both the contributions and limitations of epidemiology and toxicology in analyzing environmental justice issues. The Subcommittee suggests that in instances in which science is incomplete with respect to environmental health and justice issues, policymakers should exercise caution on behalf of low-income and minority communities, particularly those that have the least access to medical, political, and economic resources, taking reasonable precautions to safeguard against or minimize adverse health outcomes.

A community is disproportionately exposed to environmental hazards when two patterns occur: 1) there is a greater number of industrial and waste facilities in the community than in another and; 2) the concentrations of toxic substances coming from each facility and the combination of the many facilities results in a greater risk of exposure to the hazards. In its 1995 Environmental Equity Study, the Department of Ecology found that in the State of Washington, there are a greater number of facilities existing in low-income and minority communities. The Subcommittee understands that these same communities face higher levels of exposure to these hazards and therefore, potentially assume higher risk of adverse health outcome.

The Subcommittee also found that often, those people who experiences higher levels of exposure to environmental stressors are also those with the least ability to deal with these hazards because of a number of factors, including: limited knowledge of exposures, disenfranchisement from the political process, limited English proficiency, cultural differences, and limited time to participate in government-sponsored meetings. In addition, factors that directly effect socioeconomic status, such as poor nutrition and stress, can make people in these communities more susceptible to the adverse health effects of these environmental hazards and less able to manage them by obtaining adequate health care. (IOM, 1999, 6)

This report summarizes the Subcommittee's work and makes recommendation to the State Board of Health for further action. These recommendations will be reviewed and considered for approval by the State Board of Health at its June 13, 2001 meeting.

### ***Recommendation 1: Conduct Better Agency Coordination***

The Subcommittee recommends that the Department of Ecology and the Department of Health work together to achieve more coordinated efforts among local, state, and federal government agencies. This effort should improve the quality of available data and the implementation of more effective planning, remediation, and enforcement programs and will better link state and local government activity with tribal governments and communities.

Strategy 1: Maintain and expand the Interagency Workgroup on Environmental Justice

- Strategy 2: Encourage all agencies to refer to the National Environmental Policy Act (NEPA) and its state equivalent the State Environmental Policy Act (SEPA) for opportunities to implement comprehensive review and analysis of all new policy proposals, rule revisions, permit applications, and construction projects.
- Strategy 3: Welcome the National Environmental Justice Advisory Council to Washington in December 2001, when it will hold its semi-annual meeting in Seattle

***Recommendation 2: Improve Agency Capacity to Address Environmental Justice Issues***

The Subcommittee recommends that State and local agencies improve their capacity to address environmental health and justice issues by expanding educational opportunities for their staff in the areas of environmental health, environmental justice, and cultural competency. These opportunities should be directed toward relevant state and local government agency staff and health professionals, including medical, nursing, and public health practitioners.

- Strategy 1: Encourage all agency staff to attend the Governor's Office of Indian Affairs' one-day Tribal Relations training.
- Strategy 2: Incorporate environmental health/justice and cultural competency training into existing agency training programs (e.g., local health officers training).
- Strategy 3: Distribute the National Environmental Justice Advisory Council's Model Plan For Public Participation to agency staff working directly with communities.  
<http://es.epa.gov/oeca/oecj/nejac/pdf/modelbk.pdf>
- Strategy 4: Collaborate with federal agencies currently focusing on environmental health capacity building and environmental justice training, including: the Center for Disease Control and Prevention (CDC), the Agency for Toxic Substances and Disease Registry (ATSDR), the National Center for Environmental Health (NCEH), the National Institute for Environmental Health (NIEHS) and the U.S. Environmental Protection Agency (EPA).

***Recommendation 3: Adopt Environmental Justice Guidelines***

The Subcommittee recommends that state and local agencies consider adopting environmental justice guidelines (as presented in Appendix 5) to institutionalize more equitable and culturally appropriate practice in Washington's many diverse communities.

Strategy 1: Ensure community participation in finalizing the guidelines.

Strategy 2: Request that the State Board of Health ask Governor Locke to consider incorporating these guidelines into an executive order.

## Introduction

Governor Locke and the Legislature have taken several steps to promote economic vitality while sustaining environmental protection and community infrastructure in the name of promoting “One Washington.” This concept of “One Washington” refers to a State where all residents can experience the benefits of unprecedented prosperity, growth, clean air, clean water, and equal participation in government activities. In this report, the Board’s Subcommittee on Environmental Justice (the Subcommittee) suggests a strategy that, in combination with efforts already underway, can further promote Governor Locke’s goal of moving the State of Washington into a sustainable and prosperous future.

Environmental justice describes a movement that focuses on eliminating the disparate impact of environmental pollution in low-income and minority communities. Early on, the Subcommittee adopted the U.S. Environmental Protection Agency’s (EPA) definition of environmental justice.

**“Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”**

EPA explains that “fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate burden of the negative human health or environmental impacts of pollution or other environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, and local and tribal programs and policies. (U.S. Environmental Protection Agency, 1998)

Of particular interest to the Subcommittee is the specific claim that disproportionate exposures produce adverse health outcomes that are also borne disproportionately by these populations. It has been well documented in the State of Washington that low income and minority populations have poorer health status than the overall population and have higher rates of a variety of diseases, including cancer and asthma. Many complex factors interact to produce health disparities among populations. Access to medical care, nutrition, behavioral choices, genetic variability, and environmental and occupational exposures, all contribute and are related. Where one lives and works is often less a matter of choice than the result of socioeconomic status. It is usually the case that people in the lower socioeconomic strata are more likely to live in the most hazardous environments and to work in the most hazardous occupations (Olden, 1998).

In direct response to concerns raised by individuals and organizations involved in environmental justice activism, the State Board of Health identified environmental justice as a top priority for 2000-2001. (See the Board’s February 2000 Environmental Justice Workplan for more discussion on the history of the environmental justice movement.) During the past year, the



Subcommittee's has focused its attention to individuals' concerns that relate to environmental exposure, disease, and the social and economic inequities that allow pollution and disease to be disproportionately located in low-income and minority communities. It has experienced the understandable distrust that resides in people who believe their problems have long been ignored by the very agencies who are charged with serving them. It has worked with committed representatives from a number of state and local government agencies to move beyond the institutional habit of working in isolation to more effective collaborative working relations.

This report summarizes the Subcommittee's work on environmental justice. It speaks to what the Subcommittee has learned from the people most affected by environmental justice issues and shares what is known in the scientific community about the relationship between disparity in health status and in environmental exposure. It then proposes several recommendations that State and local government can implement to more effectively respond to the requests of those representing the interests of the environmental justice movement.

## **The Environmental Justice Subcommittee's Efforts**

The Board of Health, struck by the relationship between environmental pollution and compromised health status among low-income people and racial and ethnic groups and the implications that has for public health, selected environmental justice as one of its five priorities for 2000-01 and established a Subcommittee on Environmental Justice. After an initial scoping effort, the members of the Subcommittee—Board members Carl Osaki and Joe Finkbonner—made several recommendations that defined the scope of the Subcommittee's work and the rationale for its current recommendations:

- Raise consciousness about the issue and set guidelines for practice in state government and within the public health community;
- Create a clearinghouse of environmental justice information housed on the Board's website; and
- Encourage state agencies and local health departments to incorporate environmental justice principles into their daily activities.

### ***Background***

Prior to embarking on these task-specific activities, the Subcommittee conducted some background work. This work involved: establishing a working definition of environmental justice; conducting a literature review on the topic of environmental justice; collecting data on disease prevalence and pollution distribution in Washington; surveying environmental justice efforts in other states and agencies; identifying Washington's environmental justice players; understanding Washington's environmental justice issues; and identifying environmental justice related activities already occurring in Washington.

### ***Definition of Environmental Justice***

As described in the introduction to this report, the Subcommittee adopted EPA's definition of environmental justice to frame its work:

**“Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”**

The Subcommittee concurs with EPA's explanation that “fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate burden of the negative human health or environmental impacts of pollution or other environmental consequences resulting from industrial, municipal, and commercial operations or

the execution of federal, state, and local and tribal programs and policies." (U.S. Environmental Protection Agency, 1998). The Subcommittee realized that "meaningful involvement" of all people in government processes is at the very center of addressing many of the issues brought forth by the environmental justice community.

The Subcommittee was particularly interested in the connection between the disproportionate burden of environmental pollution and increased negative health impacts. It looked closely at the specific claim that disproportionate exposures produce adverse health outcomes that are also borne disproportionately by these populations.

One issue that needed to be defined and contextualized early was the debate about who was there first -- industry or residents? Were industrial and waste facilities purposely located in low-income and minority communities because of discriminatory motivations, because of lack of politically effective opposition, because land was cheap, because of shortsighted zoning practices, or because of a combination of these and other factors? Did the same socioeconomic and racial or ethnic minorities populate the communities when the industrial and waste facilities were originally established, or did the composition of the communities evolve later, as a result of economic or other factors? The Subcommittee decided, for the purpose of its work, it was not necessary to reach any conclusions about causality or motivation. The Subcommittee recognizes that these arguable points exist and are very important to the larger social and economic interest in any community. However, as a Subcommittee of the State Board of Health, an entity charged with protecting and promoting the health of the people of Washington, it is the Subcommittee's opinion that no matter how these conditions came to be, if the conditions represent environmental health hazards and if the burdens of these hazards are borne disproportionately, it is important to assess the scope and severity of the problems and to propose recommendations to address them.

### ***Literature Review***

To understand the history and scope of the environmental justice movement and the research available on the topic, the Subcommittee conducted a web search and a review of the literature with an emphasis on the public health issues relevant to environmental justice. The best information about the history and scope of the environmental justice movement came through community organizations web pages. EPA, the agency directing the federal government's lead on environmental justice, also offers extensive information on its website. The Subcommittee has placed a "links" page on its own website to refer users to these valuable resources. A summary of some of the available public health literature is also included on the Board's website at <http://www.doh.wa.gov/sboh/EJ/EJLitReview.htm>

In 1999, the Committee on Environmental Justice from the Institute of Medicine published *Toward Environmental Justice: Research, Education, and Health Perspectives*. This report

represents the best available public health assessment of issues relevant to environmental justice. Given the independent and comprehensive nature of this review, the Subcommittee relied on its findings and recommendations to guide its own efforts. The IOM review was authored by a 15-member committee that represented academia, public interest, medicine, law, and industry. The committee met with stakeholders, citizens, public officials, and industry representatives around the United States to assess the need for better research, education, and health policy related to environmental justice.

### ***Data Collection***

Data collected for the purpose of informing the Subcommittee's recommendations came in several forms: personal interviews, public testimony at open forums, conferences and meetings, government reports, and exchanges with the scientific community. An interpretation of the scientific data collected is presented later in this report.

### ***Survey of Other Agency and State Environmental Justice Efforts***

When the Board identified environmental justice as a priority focus in February 2000, it was by no means the first attempt in Washington for State or local government to respond to this issue. In 1994, the legislature appropriated \$29,000 for the Department of Ecology to evaluate the distribution of waste facilities and toxic releases in relation to the racial, ethnic and economic make-up of communities. The following year, the Department of Ecology (Ecology) published the *Study on Environmental Equity in Washington State*, which showed that there are a greater number of facilities existing in lower income and minority block groups statewide. Since that time, Ecology has dedicated one full-time employee to environmental justice issues. The Subcommittee has collaborated very closely with this individual.

The Seattle City Council responded almost immediately in 1994 to President Clinton's executive order on environmental justice<sup>1</sup>, in 1994 by passing a resolution, establishing an Environmental Justice Task Force, and recommending particular actions. Seattle King County Public Health participated on the Task Force and was very involved in the City's efforts. President Clinton's Executive Order can be found at <http://books.nap.edu/books/0309064074/html/111.html> Appendices 1 and 2 include the Seattle City Council's resolution and the City of Seattle's

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<sup>1</sup> In February 1994, the Clinton Administration issued Executive Order 12898-Federal Actions to Ensure Environmental Justice in Minority and Low-Income Communities. This order urged 17 federal agencies to develop an Environmental Justice strategy for "identifying and addressing [any] disproportionately high and adverse human health or environmental effects [in] its programs, policies, and activities on minority populations and low-income populations.

proposed policy on environmental justice. This information and input from those who were involved in these earlier efforts helped to inform the Subcommittee's proposed recommendations.

In addition, the Subcommittee surveyed environmental justice activities occurring around the country. It found numerous examples of community action efforts. For its purposes however, the Subcommittee focused on other state efforts to address environmental justice issues. With EPA's assistance, it chose 6 states (California, Louisiana, Oregon, New York, New Jersey, and Maryland) that were "far enough along" in their environmental justice programs to share a useful model of practice. Appendix 3 provides a summary of this state survey.

### ***Washington's Environmental Justice Players***

The Subcommittee found that environmental justice is a term used by some to describe their efforts to address the disproportionate impact of pollution in low-income and minority communities. Other groups and individuals may be working on efforts that embrace the concept of environmental justice, as defined above, but will not use this term to describe their work. With this said, the Subcommittee identified people and organizations engaged in work that embraced the spirit of environmental justice. To identify these people, it participated in meetings, public forums, electronic forums related to environmental quality, health disparities, and environmental justice. The Subcommittee found that building relationships and establishing trust with the people and organizations working on the issues was the essential first step in finding its place in a process of addressing environmental justice problems in Washington.

The Subcommittee found several other agencies (in addition to the Department of Ecology) engaged in work with communities that is directly related to environmental justice concerns. The Departments of Health, Transportation, Agriculture, Natural Resources, and Community Development are a few of the many agencies who participated in the Interagency Workgroup on Environmental Justice, convened by the Subcommittee. (See Appendix 4 for a list of invited participants.) For a summary of agency work related to environmental justice compiled by the workgroup see the Board's website <http://www.doh.wa.gov/sboh/EJ/SASummaries.htm>

### ***Washington's Environmental Justice Issues***

Environmental justice issues are identified as such by individuals, communities and organizations working on the issues. These issues have come to the Subcommittee's attention through a variety of means: testimony at public forums, EPA's list of environmental justice grant recipients, and community publications. The Community Coalition for Environmental Justice (CCEJ) identified thirteen environmental justice issues in Washington in its publication *Global Struggles Local Struggles* (CCEJ, 2001). The Northwest People of Color Coalition for Environmental and Economic Justice shared the proceedings from its gathering in September

2000. This document highlighted a number of environmental justice issues. Several environmental justice issues that have come to the Subcommittee's attention include the following.

### **Toxic Fish Consumption in Asian, Pacific Islander, Native American, and Central and East European Populations**

Seafood consumption patterns vary greatly among different cultures and people. The Subcommittee found that, especially among Asian, Pacific Islander, Native American and some Central and East European populations, there is a perceived environmental justice problem. These populations often consume fish in greater quantity and with more frequency than the rest of the population. When a water contamination problem occurs in the state, the toxic concentrations often deposit in fish tissue and will be absorbed by humans consuming those fish. Methylmercury for example, deposits in fish muscle. Those people who are accustomed to eating the entire fish will assume even more exposure to the methylmercury by consuming the whole fish, than those who simply eat the fillet. Many members of these ethnic minorities may have limited English proficiency, making the communication of health advisories challenging. It is therefore very important for agencies working with these communities to use culturally appropriate methods of communication.

The Subcommittee also heard the complaint that agencies need to consider culturally appropriate consumption patterns when calculating the risk of exposure to particular toxins in fish. Scientists have traditionally relied on the "white male" consumption pattern to estimate risk. The Indigenous People's Subcommittee of the National Environmental Justice Advisory Committee (NEJAC) has been working closely on this issue. This topic will be the focus of NEJAC's December 2001 semi-annual meeting in Seattle.

### **Pesticide Exposure to Farmworkers**

During the September 2000 Town Meeting held in Seattle, co-sponsored by the National Institute for Environmental Health and the University of Washington and supported by the Board and many other organizations, the Subcommittee heard a number of issues raised in the context of environmental justice. One of these issues, raised by farm workers and representatives from community organizations, addressed unreasonable pesticide exposure to the farmworkers. Those testifying expressed a number of points related to this issue.

- One organizational representative complained of the lack of qualified medical professionals in the Yakima Valley and other parts of Eastern Washington who are trained in occupational medicine and able to recognize the symptoms of pesticide exposure. As a result patients are not being referred to specialists and not receiving necessary and appropriate treatment.

- One resident stated that government agencies, charged with enforcing rules to protect workers against pesticide poisoning, have failed to properly enforce those rules.
- One resident complained that pesticides that are regulated for home use must also be regulated for occupational use.
- One community representative complimented Washington's Pesticide Incident Reporting System (PIRT), but suggested that the state needs to develop a "use" reporting system so that it can regulate the use of pesticides to adequately protect public health. He added that chronic as well as acute health effects need to be evaluated.
- Another community representative said that the burden of proof in pesticide cases is unfairly placed on the people exposed. The people most often exposed to pesticides are farmworkers and their families with limited resources and knowledge about confronting these issues.
- One resident asked how much information is required before government is willing to take action.

### **Urban Pollution Concentration**

In the United States, pollution sources (industrial and waste facilities) are often found in greater numbers in urban industrial areas. This pattern is evident in parts of South Seattle, where more industrial facilities are located than in other parts of the State. In several of South Seattle's neighborhoods, industrial facilities are located adjacent to residential housing. For example, in the South Park community, more than forty industrial and waste facilities are situated within a one- to five- mile radius of residential homes. (CCEJ, 2001) As discussed in the following section of this report, toxic releases from these industrial and waste facilities are associated with increased health risks. The South Seattle communities experience higher mortality rates and decreased life expectancies than overall Seattle averages. They also have higher hospitalization rates for respiratory diseases than in other King County areas. (Public Health Seattle King County, 1997) More discussion on the relationship between exposure and disease is found in the following section, Environmental Justice: a Public Health Issue.

The Subcommittee heard from a number of residents and community leaders concerned about the proximity of residential housing to industrial and waste facilities.

***Implementing the Subcommittee's Work Plan***

As described above, the Subcommittee used a variety of methods to inform its work on environmental justice. This section describes how the Subcommittee responded to each of the tasks in its workplan.

***Raise consciousness about the issue***

In the process of collecting information and speaking with the relevant players, the Subcommittee was also achieving one of the primary goals of its workplan-- to raise awareness about environmental issues. The Subcommittee focused its efforts on raising awareness about these issues in government. The Subcommittee participated in a number of community forums, meetings, and events in an effort to achieve this end.

In addition, the Subcommittee published articles on environmental justice in the EPA Environmental Justice and the Washington Environmental Health Association newsletters. The Subcommittee also presented its work at the Washington Public Health Association meeting in October 2000.

***Create a clearinghouse of environmental justice information housed on the SBOH website***

The Subcommittee launched its website in July 2000 at [www.doh.wa.gov/sboh/ej](http://www.doh.wa.gov/sboh/ej). This site serves as one clearinghouse of information on environmental justice. It also links users to a number of relevant other sites. Topical areas on the website include:

- *What is Environmental Justice?*
- *History of Environmental Justice*
- *Literature Review*
- *Upcoming Environmental Justice related events*
- *Links*
- *Link to Board's Health Disparities Site*

***Set guidelines for practice in state government and within the public health community to encourage that environmental justice principles be incorporated into practice.***

To encourage state agencies and local health departments to incorporate environmental justice principles into their activities, the Environmental Justice subcommittee quickly discovered the need to inform agency staff about the relevance of this issue in their work and to collaborate with those already working on this issue.



The Subcommittee convened an Interagency Workgroup on Environmental Justice. This workgroup served as another vehicle for education and an opportunity to influence agency practice. The workgroup met twice during the year to discuss issues of mutual concern and interest. In December 2000, the Subcommittee convened an educational forum for interested agency representatives. This forum brought together a number of community and agency experts to discuss opportunities to incorporate environmental justice principles into practice. A videotape of this forum is available through the Department of Health's lending library.

In this report, the Subcommittee presents a set of guidelines that incorporate principles presented at the 1991 First National People of Color Environmental Leadership Summit in Washington D.C. and input from community partners and state and local agency representatives. These guidelines are intended for use by all relevant agency staff to promote environment justice wherever possible in local and state government decisions and actions. The Subcommittee hopes to encourage agencies to incorporate these guidelines into their respective policies, programs and procedures. These guidelines are included in Appendix 5. The Subcommittee hopes to receive additional public comment on the guidelines at the Board's June 2001 meeting.

## **Environmental Justice: A Public Health Issue**

Making the case for environmental justice as a public health issue requires an understanding of the scientific base on which the relationship between disease and exposure sits. Any policy action that is to be taken in response to concerns raised by the environmental justice movement requires an understanding of the relationship between two factors:

- 1) the prevalence of disease disparity in low-income and minority communities; and
- 2) the disproportionate exposure to environmental pollutants.

The relationship between these two factors and the decision about whether or not to take some form of policy action hinges on the extent to which the prevalence of disease disparity in low-income and minority communities is caused (even in part) by the disproportionately high levels of exposure in that community. High levels of exposure can be attributed to the high number of industrial and waste facilities in these communities and the concentration of pollution coming from those facilities.

This section will begin by documenting well-founded knowledge about the existence of health disparities in Washington. It will then discuss what is known about health effects associated with environmental exposures and the way in which low-income and minority communities are disproportionately exposed to environmental hazards that may contribute to these disparities.

### ***Health Disparities in Washington***

The Subcommittee found documented health status differences among racial and ethnic minorities and among low-income populations in the United States. (Healthy People 2010, IOM, 1999) In Washington State, racial and ethnic minorities have higher rates of at least six diseases, including HIV/AIDS, cardiovascular disease, tuberculosis, cancer, diabetes, and asthma. In addition, racial and ethnic minorities in Washington have poorer birth outcomes, higher teen birth rates, more behavioral risks, more intentional and unintentional injuries, and poorer access to medical care than Washington's overall population. The Board's proposed final report on Health Disparities summarizes the data on disease rates among ethnic and minority communities in greater detail.

The Board's Subcommittee on Health Disparities' review of epidemiological data confirmed that Washington's racial and ethnic minorities have higher rates of illness and death from many conditions that may be associated with environmental factors and other health threats than the state's overall population. The Board's Subcommittee on Environmental Justice confirmed that this is also true for the State's low-income populations.

Compared to Caucasians:

- African Americans and Native Americans are twice as likely to die in infancy
- African Americans are more than three times more likely to die from HIV infection, while Hispanics are 1.5 times more likely to die from the virus.
- African Americans are three times more likely to die from diabetes; the rate of death from diabetes is nearly 2.5 times higher for Native Americans and nearly 1.5 times higher for Hispanics.
- African Americans, Asian/Pacific Islanders and Native Americans are nearly twice as likely to die from cervical cancer.
- African Americans are twice as likely to die from asthma; Asian/Pacific Islanders and Native Americans die from asthma at 1.5 times the Caucasian rate.

A 1999 General Accounting Office (GAO) report concluded that children in low-income families who live in older housing with deteriorating lead-based paint are at high risk for lead poisoning. The GAO's analysis shows that children served by federal health care programs are almost five times more at risk for elevated blood lead levels than children who were not in these federal programs (GAO, 1999). Comparative blood lead levels for Washington's children are not available, but it is fair to assume that this federal analysis would apply to conditions in Washington.

It is not the case that all minority groups have poorer health outcomes for all disorders. According to the *Washington 2000 State Health Profile* (CDC, 1999), for example, Hispanics were less likely than Caucasians to die during 1995-97 from heart disease, stroke, cancer, and chronic obstructive pulmonary disease.

Nonetheless, disparities affecting racial and ethnic minorities can be observed for 18 of 24 disease conditions found in the 1996 Department of Health report *Health of Washington State* and its 1998 *Addendum*. Epidemiological data for those 24 conditions shows African Americans have a disproportionate burden of disease for 18 conditions; Native Americans for 16 conditions; Hispanics for 11 conditions; and Asians for three conditions (see Appendix 6). Disparities in health status for other demographic groups such as new immigrants also exist but are not described in this report.

***Health Risks Associated with Environmental Exposure***

Establishing a certain link between a particular environmental exposure and disease is difficult because of the many confounding variables that interact to produce a particular disease outcome. This task becomes even more challenging in low-income and minority communities, where the variables contributing to higher morbidity and mortality rates are numerous (i.e., poverty, nutrition, access to health care, genetic susceptibility). With that said however, there are methods for evaluating the relative contribution of environmental factors to health status and estimating an individual's risk of disease when exposed to particular hazardous substances. Policymakers use both epidemiology and toxicology to inform their decisions and recommendations surrounding environmental exposures and disease.

***Epidemiological Findings***

Only a few epidemiological studies have been conducted to produce evidence to link health disparities to disparate environmental exposures. (Sexton et al., 1993; Wagener et al., 1993, IOM, 1999, 19) One study did find a definite link between disparate exposure to dimethylformamide and disparate prevalence of toxic liver disease (Friedman-Jimenez and Claudio, 1998; Redlich et al., 1988 as referenced in IOM, 1999).

The Subcommittee found no studies in Washington State to affirm the hypothesis that disparate exposure causes disparate prevalence of disease. However, upon further examination, the Subcommittee has concluded that the lack of literature speaks more to the shortcomings of using the epidemiological method to analyze the relationship between disparate exposure and disparate disease patterns than to the absence of an actual link.

Epidemiology looks at the distribution and determinants of diseases and injuries in human populations. (Mausner, 1985) To a limited extent, this method can inform the discussion about the relationship between an environmental exposure and a related negative health outcome. This is especially true when the population being studied is large enough to give the study its necessary statistically significant sample. Rarely is this the case however in the context of an environmental justice inquiry, where the concerned communities tend to be relatively small and cannot offer this large sample size. (IOM, 1999, 20) For example, the Shoalwater Tribe, located in Southwestern Washington has unusually high miscarriage rates. A 1999 Center for Disease Control and Prevention (CDC) investigation estimated the Shoalwater Tribe's miscarriage rates at 50 to 67 percent. This range compares with estimates in the general population at 15 percent. While explanations about potentially contaminated runoff from cranberry bogs and inadequate access to health care are presented as potential causes for these unusually high rates, the scientific community has been unable to assign a certain etiological factor to these high

miscarriage rates because the sample size is considered too small to draw a statistically significant conclusion.

Epidemiologists also face the problem of not having adequate data to measure the impact of a causal agent on racial and ethnic minorities or low-income populations. Often, the data on which epidemiological studies rely are quite limited and may not differentiate race, ethnicity, or income fields. The Washington hospitalization data in the Comprehensive Hospital Abstract Reporting System (CHARS), for example, does not contain race or ethnicity fields, nor information on the income of the hospitalized person, making an analysis along these lines impossible.

While surveillance data often used in epidemiological inquiry to reveal disease patterns can inform the discussion of the type and rate of disease in a particular community, it does little to inform the question about the cause of that disease. Data on the number of hospitalizations or the number of emergency room visits, as a measure of the relative impact of environmental hazards is also problematic. These indicators may be strongly influenced by other factors, such as lower rates of health insurance or limited access to primary care. (IOM, 1999, 20) Many of the challenges posed by an analysis of environmental justice in Washington are illustrated by using the following example of asthma.

A doubling in the rate of asthma in the U.S. since 1980 has lead many researchers to draw its association with industrialized urban areas and increased levels of exposure to environmental pollutants. (Vogel, 20, IOM, 20) Often, low-income and minority populations live, work, and play in these industrialized urban areas, leading one to believe that they may be more exposed to a variety of industrial pollutants. Table 1 reveals that Hispanics and African Americans are more likely to live in areas where particulates, sulfur dioxide, and ozone exceed National Ambient Air Quality Standard – circumstances that may contribute to the prevalence and severity of asthma, in addition to decreased respiratory function, respiratory infections, chronic pulmonary disease, congestive heart failure, and increased mortality (Brooks, et al, 1995, IOM, 1999, 19).

**Table 1: Percentage of White, African American, and Hispanic Populations Living in Air Quality Nonattainment Areas, 1992**

| <b>Pollutant</b> | <b>Percentage</b> |                         |                 |
|------------------|-------------------|-------------------------|-----------------|
|                  | <b>White</b>      | <b>African American</b> | <b>Hispanic</b> |
| Particulates     | 14.7              | 16.5                    | 34.0            |
| CO               | 33.6              | 46.0                    | 57.1            |
| Ozone            | 52.5              | 62.2                    | 71.2            |
| SO <sub>2</sub>  | 7.0               | 12.1                    | 5.7             |
| Lead             | 6.0               | 9.2                     | 18.5            |

Note: Nonattainment areas refer to those areas that do not meet the National Ambient Air Quality Standards for various pollutants.

Source: Wernette and Nieves, 1993 as presented in IOM, 1999, p. 15.

In Washington State, four sources contain asthma data: Youth Risk Behavioral Survey (YRBS), the Behavioral Risk Factor Surveillance System (BRFSS), Comprehensive Hospital Abstract Reporting System (CHARS), and death certificates in the Vital Statistics program. YRBS was conducted in 1999 in schools with youth in grades 9-12. BRFSS was conducted by telephone with adults who were also asked if there is a child in the household with asthma. The YRBS data, presented in Table 2, is broken down by racial and ethnic minorities. The survey suggests that there may be higher rates of asthma among these minority groups. However, the Subcommittee cautions that the sample sizes are small and the confidence intervals wide, limiting the reliability of these findings.

**Table 2: Washington State Asthma Rates as Reported in the Youth Risk Behavioral Survey, By Race**

| <b>Race</b>                               | <b>N reporting ever had asthma</b> | <b>Weighted % (95% CI)</b> |
|---|------------------------------------|----------------------------|
| American Indian or Alaskan Native         | 18                                 | 29.0% (17.5,40.5)          |
| Asian                                     | 25                                 | 16.8% (9.1,24.5)           |
| Black/African American                    | 20                                 | 20.2% (13.5,26.9)          |
| Hispanic                                  | 26                                 | 14.1% (8.9,19.3)           |
| Native Hawaiian or other Pacific Islander | 20                                 | 33.9% (21.4,46.4)          |
| White                                     | 498                                | 18.9% (17.3,20.5)          |
| Multiple races - Hispanic                 | 15                                 | 22.7% (11.4,34.0)          |
| Multiple races - non-Hispanic             | 38                                 | 25.0% (18.0,32.0)          |

Source: Washington State Department of Health, 1999. These data reflect 3408 participants who responded to the questions about asthma and race/ethnicity.

The BRFSS analysis is limited to white/non-white categories because the number of people with asthma in specific non-white groups is too small for meaningful analysis. The survey results showed no variation in asthma rate differences in these two categories. It does however show slight disparity along income categories. (See Table 3) Again, the Subcommittee must caution about the limitation of these findings because the sample sizes are small and the confidence intervals wide.

CHARS are hospital discharge data. It is not broken down by race, and therefore cannot yield any results to show variation in asthma-related hospitalizations for different racial or ethnic minorities.

Seattle King County Department of Public Health, however, has collected hospitalization rates for respiratory diseases and has broken this information down by zip code. (Seattle King County Public Health, 1997). Hospitalization rates, for all respiratory diseases in 1991 through 1995, for two urban industrial communities in South Seattle (Georgetown and South Park) have been significantly higher than in other King County areas for persons ages 0-64. Hospitalization rates for asthma are also significantly higher than King County rates for persons ages 0-44. While increased hospitalization rates may reflect higher rates of asthma and other illnesses in this area, they may also be associated with a lack of access to health care which could lead to higher numbers of hospital visits and increased hospitalization rates. When compared to the overall Seattle averages, these two communities have higher mortality rates and decreased life expectancies (Washington Department of Health, 1999, Seattle King County Public Health, 1997).

**Table 3: Washington State Asthma Rates as Reported in the Behavioral Risk Factor Surveillance System (1997-1999)**

| <b>Annual Income</b> | <b>N reporting ever being diagnosed with asthma/those surveyed</b> | <b>Weighted % (99%CI)</b> |
|----------------------|--|---------------------------|
| < \$25,000           | 374/2596   | 14.5% (12.8-16.2)         |
| \$25,000 - \$49,999  | 395/3623   | 10.6% (9.4-11.8)          |
| > \$50,000           | 326/3040   | 10.0% (8.9-11.1)          |

Source: Washington State Department of Health, 1999.

Analysis of death certificate data shows that mortality rates are elevated for Black/African American, Native Americans, and Asians. Due to the small number of deaths, the mortality rate for Native Americans is considered not to be statistically significant. (See Table 4)

**Table 4: Mortality from Asthma, Washington State 1980-98**

| <b>Race</b>      | <b># of Deaths</b> | <b>Age-adj death rate</b> | <b>Rate Ratio</b> | <b>LB</b>  | <b>UB</b>  |
|------------------|--------------------|---------------------------|-------------------|------------|------------|
| <b>Total</b>     | <b>1829</b>        | <b>2.3</b>                |                   |            |            |
| <b>White</b>     | <b>1665</b>        | <b>2.2</b>                | <b>1.0</b>        | <b>2.1</b> | <b>2.3</b> |
| <b>Black</b>     | <b>81</b>          | <b>4.9</b>                | <b>2.2</b>        | <b>3.8</b> | <b>5.9</b> |
| <b>NatAm</b>     | <b>14</b>          | <b>2.8</b>                | <b>1.3</b>        | <b>1.9</b> | <b>3.8</b> |
| <b>Asian</b>     | <b>69</b>          | <b>3.1</b>                | <b>1.4</b>        | <b>2.4</b> | <b>3.8</b> |
| <b>Hispanic*</b> | <b>13</b>          | <b>1.0</b>                | <b>0.5</b>        | <b>0.5</b> | <b>1.5</b> |

AADR = rate per 100,000, age-adjusted to year 2000

LB, UB = Lower Bound and Upper Bound of 95% Confidence Limit

RR = relative to rate in whites

\* Hispanic ethnicity can be any race

Sources:

Death Certificate Data: Washington State Department of Health, Center for Health Statistics

1990-1998 Population Estimates: Department of Social and Health Services, Washington State Adjusted Population Estimates, April 1999

1980-1989 Population Estimates are unofficial, based on estimates by the Washington State Office of Financial Management

### ***Toxicological Findings***

In contrast to the epidemiological method described above, toxicology examines hazardous qualities of a particular chemical and its impact on human health. Given the ethics of evaluating this interaction, the discipline of toxicology relies on animal data and extrapolates its findings to make assumptions about risk levels in humans.

The field of environment sciences has evaluated hundreds of chemicals in laboratory settings and has been able to determine the toxicity and carcinogenicity of these substances. There is an abundance of information available on the location of facilities and releases to the environment. Databases are available from a variety of sources on chemical identification, carcinogenicity, mutagenicity, general toxicity and risk assessment, and environmental releases. (IOM, 1999, 26) The Toxic Release Inventory (TRI), published by the U.S. Environmental Protection Agency (EPA) is one example of a data base that provides information regarding toxic chemicals that are being used, manufactured, treated, transported, or released into the environment. EPA also classifies and then lists chemicals as known or probable human carcinogens. This classification is then used by government agencies to set regulatory pollution limits. The National Institute of Environmental Health (NIEHS) has compiled disease-specific information and mapped it against the number of chemicals associated with that condition. There is some information available on the interaction between human tissue and organs and particular chemicals. One example can be



found on the NIEHS website at: [http://ntp-server.niehs.nih.gov/htdocs/Sites/Psite\\_Cnt.html](http://ntp-server.niehs.nih.gov/htdocs/Sites/Psite_Cnt.html) The Agency for Toxic Substances and Disease Registry (ATSDR) characterizes the toxicological and adverse health effects from a particular hazardous substance in a document referred to as a toxicological profile. .

Scientists have been able to make predictions between the quantity of a particular exposure and the associated risk to humans. They can then evaluate exposure levels from particular sources and assess the potential risk to the exposed population. Risk assessment methodologies make assumptions about amount of exposure, pathways of exposure, and frequency of exposure to come up with a quantity that is regarded as “acceptable” - that is, the amount of exposure that a person can handle without being harmed. This level can be set at a level some consider more protective than warranted. Policymakers in turn make decisions about removing particular chemicals from the market because of their toxicity levels or they regulate the amount of allowable emission through various regulatory programs (e.g., Clean Air Act, Clean Water Act, Safe Drinking Water Act). Policymakers will also use this scientific base to make decision about clean-up standards at hazardous waste sites.

The Subcommittee believes that this toxicological information, in tandem with available epidemiological data and an understanding of the number of facilities (sources of toxic releases) in a community, can be quite helpful in furthering our understanding of the relative contribution of environmental factors to the problem of health disparities in a community.

### ***Disproportionate Exposure to Environmental Hazards***

A community is disproportionately exposed to environmental hazards when two patterns occur: 1) there is a greater number of industrial and waste facilities in the community than in another and; 2) the concentrations of toxic substances coming from each facility and the combination of the many facilities results in a greater risk of exposure to the hazards. If the exposure results in a negative health outcome that is not seen in populations with fewer industrial and waste facilities, an environmental justice concern is raised and a health disparity confirmed.

### ***Concentration of Industrial and Waste Facilities in Low-Income and Minority Communities***

Across the country, several studies have demonstrated evidence of a disproportionately higher number of industrial and hazardous waste facilities located in low-income and minority neighborhoods (U.S. General Accounting Office, 1983, Commission for Racial Justice of the United Church of Christ, 1987, Institute of Medicine, 1999, Perlin, et al., 2001).

This trend was also found to be true in Washington in 1995. *The Study on Environmental Equity in Washington State* conducted by the Department of Ecology revealed that there are a greater number of facilities existing in low-income and minority block groups statewide (Washington

Department of Ecology, 1995). The study evaluated 900 contaminated sites, facilities and toxic releases in relation to census data of “block groups” (400 units) categorized as “minority” or “low income.” In this study, the term “facility” includes: contaminated sites, treatment-storage-disposal facilities, major water releasers, major air releasers, landfills, incinerators, and toxic release inventory (TRI) facilities. This study can be found at [www.ecy.wa.gov/pubs/95413.pbf](http://www.ecy.wa.gov/pubs/95413.pbf)

***Does a Greater Number of Facilities Increase the Risk of Exposure and a Negative Health Outcome?***

Based on what we know about the toxicity of chemicals and the pathways of exposure, it would be difficult to argue that increased exposure does not translate into increased risk of some negative health outcome. Given that many low-income and minority communities house a disproportionately high number of industrial and waste facilities, the Subcommittee believes that it is logical to assume that the cumulative impact of the sources of toxic releases would put a population at increased risk of harm from the exposure. Table 5 displays several potential sources of environmental contamination and substances that are known to be harmful to humans when absorbed above acceptable threshold levels. Although these exposures can effect all people, there is evidence to show that minorities and lower-income groups face higher levels of exposure to these hazards and, therefore, potentially higher risks of adverse health outcomes. (IOM, 1999, p. 14)

**Table 5: Examples of Potential Sources of Environmental Health Hazards**

| Sources  | Substances  |
|--|---|
| Agricultural Runoff<br>Incinerators<br>Industrial facilities<br>Landfills<br>Toxic waste sites<br>Waste treatment facilities | Allergens<br>Heavy metals<br>Paints and oil wastes<br>Particulate matter<br>Pesticides and herbicides<br>Radioactive wastes<br>Solvents<br>Volatile organic compounds |

Source: IOM, 1999.

## Conclusion and Recommendations

The Subcommittee concurs with the Institute of Medicine's opinion that “concerns about environmental health and environmental justice are legitimate and should be taken seriously, even if the information and data related to these concerns still lack some of the rigorous scientific attributes that policymakers desire.” (IOM, 1999, p. 65)

The Subcommittee recognizes that low-income and minority communities have poorer health status than the overall population and have higher rates of a variety of diseases, including cancer and asthma that are known to be associated with environmental triggers. Further, the Subcommittee recognizes that environmental and occupational exposures contribute to the problem of health disparities, along with other factors, such as behavioral choices, nutrition, access to medical care, and genetic predisposition.

Based on the Department of Ecology's 1995 analysis, the Subcommittee is aware that Washington's low-income and minority populations (defined as block groups in the report) house a greater number of industrial and waste facilities than the general population. The Subcommittee understands that these same populations face higher levels of exposure to these hazards and therefore, potentially assume higher risk of adverse health outcome. The Subcommittee concludes that these disproportionate exposures produce adverse health outcomes that are also borne disproportionately by low-income and minority communities in Washington.

The Subcommittee also found that often, those people who experiences higher levels of exposure to environmental stressors are also those with the least ability to deal with these hazards because of a number of factors, including: limited knowledge of exposures, disenfranchisement from the political process, limited English proficiency, cultural differences, and limited time to participate in government-sponsored meetings. In addition, factors that directly effect socioeconomic status, such as poor nutrition and stress, can make people in these communities more susceptible to the adverse health effects of these environmental hazards and less able to manage them by obtaining adequate health care. (IOM, 1999, 6)

Based on interviews with community government agency representatives, the Subcommittee also found that environmental justice has been embraced by many activist organizations, but is often poorly understood by government and regulatory agencies. However, the Subcommittee found an overall willingness and desire on the part of agency representatives to response to community concerns, ensure fairness and equality in their work, and improve their ability to work more effectively with communities. The Subcommittee also found frustration in both agency and community representatives who complain of not having access to one another. The Subcommittee heard from agencies that they did not know how to effectively engage the public in their processes. From a number of residents, it heard that, in a highly impacted community where a number of agencies (e.g., EPA, Ecology, Department of Health, Local Health, Local Air

Authority, etc) are working, it becomes very difficult for residents to participate in each agencies individual request for public input. These residents also expressed a lack of understanding of the unique roles of different government agencies working in their communities.

As a result of its analysis, the Subcommittee formulated 3 recommendations related to environmental justice. Strategies for implementing the recommendations follow. Together, these constitute a framework for further action. These recommendations will be reviewed and considered for approval by the State Board of Health at its June 13, 2001 meeting.

***Recommendation 1: Conduct Better Agency Coordination***

The Subcommittee recommends that the Department of Ecology and the Department of Health work together to achieve more coordinated efforts among local, state, and federal government agencies. This effort should improve the quality of available data and the implementation of more effective planning, remediation, and enforcement programs and will better link state and local government activity with tribal governments and communities.

- Strategy 1: Maintain and expand the Interagency Workgroup on Environmental Justice
- Strategy 2: Encourage all agencies to refer to the National Environmental Policy Act (NEPA) and its state equivalent the State Environmental Policy Act (SEPA) for opportunities to implement comprehensive review and analysis of all new policy proposals, rule revisions, permit applications, and construction projects.
- Strategy 2: Welcome the National Environmental Justice Advisory Council to Washington in December 2001, when it will hold its semi-annual meeting in Seattle

***Recommendation 2: Improve Agency Capacity to Address Environmental Justice Issues***

The Subcommittee recommends that State and local agencies improve their capacity to address environmental health and justice issues by expanding educational opportunities for their staff in the areas of environmental health, environmental justice, and cultural competency. These opportunities should be directed toward relevant state and local government agency staff and health professionals, including medical, nursing, and public health practitioners.

- Strategy 1: Encourage agency staff to attend the Governor's Office of Indian Affairs' one-day Tribal Relations training.
- Strategy 2: Incorporate environmental health/justice and cultural competency training into existing agency training programs (e.g., local health officers training).

- Strategy 3: Distribute the National Environmental Justice Advisory Council's Model Plan For Public Participation to agency staff working directly with communities.  
<http://es.epa.gov/oeca/oecj/nejac/pdf/modelbk.pdf>
- Strategy 4: Collaborate with federal agencies currently focusing on environmental health capacity building and environmental justice training, including: the Center for Disease Control and Prevention (CDC), the Agency for Toxic Substances and Disease Registry (ATSDR), the National Center for Environmental Health (NCEH), the National Institute for Environmental Health (NIEHS), and the U.S. Environmental Protection Agency (EPA).

***Recommendation 3: Adopt Environmental Justice Guidelines***

The Subcommittee recommends that state and local agencies consider adopting environmental justice guidelines (as presented in Appendix 6) to institutionalize more equitable and culturally appropriate practice in the Washington's many diverse communities.

- Strategy 1: Ensure community participation in finalizing the guidelines.
- Strategy 2: Recommend that the State Board of Health ask Governor Locke to consider incorporating these guidelines into an executive order.

## Appendix 1: Seattle Resolution 28889

Resolution In Support of the Executive Order for Environmental Justice

*Sponsored By. Councilmember Sue Donaldson  
February 28, 1994*

A RESOLUTION in support of President Clinton's Executive Order on Environmental Justice.

VVHEREAS, President Clinton has stated that, "All Americans have a right to be protected from pollution - not just those who can afford to live in the cleanest, safest, communities"; and

WHEREAS, under the guidance of the Executive Order, we believe that all government agencies, particularly local jurisdictions, can make environmental justice a part of their environmental agenda; and

WHEREAS, under the Executive Order on Environmental Justice, federal agencies will be required, and local jurisdictions encouraged, to implement the following:

1. Develop strategies for identifying and addressing disproportionately high and adverse human health or environmental effects on low income minority populations;
2. Ensure minority and low income populations have access to public information related to human health and the environment;
3. Conduct activities related to human health and the environment in a manner that does not discriminate or have the effect of discriminating against low income and minority populations;
4. Consider disproportionately high and adverse human health effects of environmental hazards on minority and low income populations in conducting research and data collection related to human health or the environment; and

WHEREAS, the Executive Order on Environmental Justice is a critical step forward in supporting environmental and community quality for all our citizens; and

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SEATTLE THAT;

President Clinton's Executive Order on Environmental Justice is expected to have an impact on Federal agencies and will assist in the siting of facilities and the consideration of environmental issues within the City of Seattle, and the City of Seattle will work to meet the universal goals outlined in the Executive Order.

## Appendix 2: City Of Seattle Proposed Policy Statement On Environmental Justice

*The City of Seattle will promote the following environmental justice goals wherever possible in decisions and actions involving environmental policy development, capital improvements, the budget, new or changed services, and enforcement*

1. **Access to City environmental resources and services:** Every effort will be made to ensure that resources and services are accessible to all community members and that no members of the community are put at a disadvantage or are harmed due to the way such resources and services are made available.
2. **Distribution of environmental costs and benefits:** The **costs** and benefits of actions should be distributed as evenly as possible among the community, so that no community members are put at recurrent disadvantage or are harmed by the results of such actions.
3. **Cumulative impacts:** The cumulative impacts of proposed environmental actions should be evaluated with respect to increasing or decreasing existing inequities,
4. **Compensation, mitigation, and incentives:** If in planning for a environmental action the City finds that such action will place an inequitable burden on groups or individuals, and further finds that it is unable to avoid placing such burden, then consideration should be given to providing those groups or individuals with commensurate compensation or incentives.
5. **Stakeholders:** Where possible, potentially impacted stakeholders should be adequately informed of environmental actions, and should be involved in the decision making process
6. **Decision makers:** Where possible, the diversity of those recommending decisions about a proposed environmental action should reflect the diversity of the potentate impacted group or area.
7. **Cultural and language barriers:** Cultural and language barriers of relevant stakeholders should be adequately identified and mitigated where possible.
8. **Outreach and education:** Stakeholders should be provided with adequate information and opportunity to understand proposed environmental actions and the City processes for reviewing, approving, and conducting projects.
9. **Alternative actions:** Alternatives to proposed environmental actions should be evaluated to determine if a more equitable distribution of impacts is possible.
10. **Employee sensitivity:** City departments should undertake efforts to increase the sensitivity of employees to the environmental justice components of City actions.
11. **Data:** Where possible, City departments should implement any measures they deem relevant to gather information about the historical, ongoing, or future environmental justice impacts of actions or projects.

### Appendix 3: Summary of State Survey of Environmental Justice Activities

| State      | Jurisdiction  | Description   |
|------------|---|---|
| California | Legislature, Governor's Office of Planning and Research, and the California Environmental Protection Agency | <p>1999 legislation named the Governor's Office as the "coordinating agency" for an interagency environmental justice advisory committee. It also requires Cal EPA to take specified actions in designing its mission for programs, policies, and standards within the agency, and to develop a model environmental justice mission statement for boards, departments, and offices within the agency.</p> <p>Separate legislation in 1999 directed Cal EPA to convene a working group on environmental justice and requires the working group to take various actions relating to the development and implementation of EJ strategies.</p>                                |
| Louisiana  | Legislature, Department of Environmental Quality  | <p>1993 legislation instructed LDEQ to hold at least three hearings throughout the state on EJ and report back to them. Recommendations from this report included: strengthening land use planning requirement to take EJ into account, provide tax incentives to reduce hazardous waste generation and disposal, and to strengthen emergency response statutes to meet community concerns.</p> <p>LDEQ created community-industry panels to address EJ concerns. At monthly meetings, subcommittees address specific issues for the public. Topics include emergency response, job training, employment opportunities, health-specific topics, economic development.</p> |



|            |   |   |
|------------|---|---|
| Maryland   | Legislature, Department of Natural Resources, Advisory Council  | 1997 legislation created the Maryland EJ Advisory Council to report to the governor on EJ issues. The Council's goals include involving affected communities, enhancing public participation, integrating public health and planning, and assessing the impact of State programs and policies on affected communities.  |
| New Jersey | Department of Environmental Protection  | An Administrative Order delivered by the Commissioner of the New Jersey Department of Environmental Protection created the Environmental Equity Task Force. This Council serves as a permanent source of advice and counsel to the Department related to environmental issues effecting minority and low-income populations. The Council is consulted during permit issuance and reviews. |
| New York   | Department of Environmental Conservation  | NYDEC created an advisory group to make recommendations to agency on the issue. The group adopted a site selection process for siting new hazardous waste management facilities. State regulations mandate consideration of factors including population density near the facility, proposed transportation routes, and proximity to historical and cultural resources.                   |
| Oregon     | Citizen Advisory Group, Governor's Office, Oregon Department of Environmental Quality, Oregon Health Division | Governor's Executive Order created Governor's Environmental Justice Advisory Board. Board was composed of citizens who made a number of recommendations to the Governor re: environmental equity and participation of minority and low-income communities in government processes.  |

## Appendix 4: Environmental Justice Interagency Workgroup

**Brent Bahrenburg**, Community Economic Assistance Team, Office of Trade and Economic Development

**Daniella Bremmer-Washington**, Transportation Plan Manager, Washington Department of Transportation\*

**Miebeth R. Bustillo Hutchins**, Washington State Commission on Asian Pacific - American Affairs

**Oscar Cerda**, Director of Minority Affairs, Washington Department of Health

**Onofre Conteras**, Washington State Commission on Hispanic Affairs

**Kimberly Craven**, Director, Governor's Office of Indian Affairs\*

**Janice Englehart**, Senior Environmental Health Policy Advisor, Washington State Board of Health

**Joe Finkbonner**, Member, Washington State Board of Health and CEO, Lummi Nation

**Senator Rosa Franklin**, State Legislator

**Harriet Amman**, PhD, Senior Toxicologist, Washington Department of Health

**Richard Hoskins**, PhD, Spatial Epidemiologist, Washington Department of Health

**Carol Jolly**, Executive Policy Advisor, Governor's Executive Policy Office

**Susan Jordan**, Executive Director, Washington State Human Rights Commission

**Joyce Kelly**, Director, Office of Environmental Justice, U.S. Environmental Protection Agency

**David Leighow**, Federal Highway Administration

**Michael Letourneau**, Office of Civil Rights, U.S. Environmental Protection, Region X

**Naydene Maykut**, Puget Sound Clean Air Agency

**Ngozi Oleru**, Environmental Health Director, Seattle King County Department of Public Health

**Leni Oman**, Planning and Development Branch Manager, Environmental Affairs, Washington Department of Transportation

**Tony Orange**, Washington State Commission on African American Affairs

**Carl Osaki**, Member, Washington State Board of Health and Former Chief, Seattle King County Department of Public Health

**Michael Perez-Gibson**, Deputy Supervisor, Operations Department of Natural Resources

**Jodi Peterson**, Civil Rights Program Manager, Federal Highway Administration

**Mike Peters**, Assistant Director Governor's Office of Indian Affairs

**John Ridgway**, Environmental Justice Coordinator, Washington Department of Ecology

**Jose Rivera**, Office of Civil Rights, Washington Department of Transportation

**Pedro Serrano**, Washington Department of Labor and Industries

**Dr. Michael Silverstien**, Washington Department of Labor and Industries

**Don Sloma**, Executive Director, Washington State Board of Health

**Kyle Taylor-Lucas**, Tribal Liaison, Department of Natural Resources

**Representative Velma Veloria**, State Legislator

**Juliet Van Eenwick**, State Epidemiologist for Non-Infectious Conditions, Washington Department of Health

**Ann Wick**, Office of Pesticides, Washington Department of Agriculture

## Appendix 5: Proposed Guidelines on Environmental Justice

Environmental Justice refers to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental and public health laws, regulations, policies, and research activities. These guidelines are intended for use by all relevant agency staff to promote environment justice wherever possible in local and state government decisions and actions. Agencies are encouraged to incorporate these guidelines into their respective agency policies, programs and procedures. Environmental Justice asks that:

1. Public policy be based on mutual respect and justice for all people, free from any form of discrimination or bias.
2. Provisions be made for equal protection from hazardous substances to provide all people with access to clean air, land, water, and food.
3. The costs and benefits of any form of development be distributed as evenly as possible among a community, so that no community members are put at recurrent disadvantage or are harmed by the results of such activity.
4. All existing environmental and public health laws and regulations be equally enforced.
5. The cumulative impacts from multiple pollution sources be evaluated with respect to increasing or decreasing existing inequalities.
6. All community members be adequately informed about any environmental problem and be included in dialogue before, during and after a decision-making process or environmental action.
7. Government agency priorities, strategic planning efforts, and research agendas be shaped with input from the community.
8. In instances in which science is incomplete with respect to environmental health and justice issues, policymakers exercise caution in favor of community health concerns.
9. Written and oral communication between a government agency and a community be conducted in the dominant language of that community and in a manner that is culturally appropriate to the community.
10. To the extent possible, governments hire and retain a diverse workforce that reflects the population it serves.
11. Communities, industry/businesses, and multiple government agencies work together to promote healthy communities.

## Appendix 6: Conditions showing disparities

|  |   |
|--|---|
| Disparities affecting all four minority groups | TB incidence<br>Cervical cancer mortality   |
| Disparities affecting three minority groups    | HIV incidence<br>STDs Gonorrhea, Chlamydia incidence<br>Diabetes mortality<br>Asthma mortality<br>Teen birth rate   |
| Disparities affecting two minority groups      | Hepatitis B incidence<br>Stroke mortality<br>Motor-vehicle crash injury mortality<br>Traumatic brain & spinal injury mortality<br>Drowning mortality<br>Homicide<br>Infant mortality<br>Total mortality |
| Disparities affecting one minority group       | Hepatitis A incidence<br>Syphilis incidence<br>Coronary heart disease<br>Lung cancer<br>Colorectal cancer<br>COPD<br>Youth suicide<br>Low birth weight  |

### Number of conditions showing disparities

|                                   |    |
|-----------------------------------|----|
| African American                  | 18 |
| American Indian and Alaska Native | 16 |
| Asian and Pacific Islander        | 3  |
| Latino                            | 11 |

Basis: Examination of rates for 24 conditions, plus total mortality, in 1996 *Health of Washington State* with its 1998 *Addendum* (age-adjusted death rates, plus crude incidence rates and birth rates), and subsequent analyses using VISTA, the Washington State Department of Health vital statistics database.

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